CLAIMS

1. A continuous process for preparing caprolactam by Beckmann rearrangement of cyclohexanone oxime, said process comprising
   a) feeding (i) oleum and (ii) cyclohexanone oxime into a first reaction mixture comprising caprolactam, sulfuric acid and SO_3,
   b) feeding (iii) a portion of the first reaction mixture and (iv) cyclohexanone oxime into a second reaction mixture comprising caprolactam, sulfuric acid and SO_3,
   c) withdrawing a portion of the second reaction mixture, wherein the process further comprises obtaining the cyclohexanone oxime that is fed to the reaction mixtures by:
      1) preparing an organic medium comprising cyclohexanone oxime dissolved in an organic solvent
      2) separating, by distillation, cyclohexanone oxime from said organic medium.
2. A process according to claim 1, said process further comprising
   d) feeding (v) a portion of the second reaction mixture and (vi) cyclohexanone oxime into a third reaction mixture comprising caprolactam, sulfuric acid and SO_3, and
   e) withdrawing a portion of the third reaction mixture.
3. Process according to any one of claims 1-2, wherein the cyclohexanone oxime that is fed to the reaction mixtures contains less than 1 wt.% water.
4. Process according to any one of claims 1-2, wherein the cyclohexanone oxime that is fed to the reaction mixtures contains less than 0.1 wt.% water.
5. Process according to any one of claims 1-4, wherein the SO_3 content of the reaction mixtures comprising caprolactam, sulfuric acid and SO_3 is at least 6 wt.%.
6. Process according to any one of claims 1-4, wherein the SO_3 content of the reaction mixtures comprising caprolactam, sulfuric acid and SO_3 is at least 8 wt.%.
7. Process according to any one of claims 1-4, wherein the SO_3 content of the reaction mixtures comprising caprolactam, sulfuric acid and SO_3 is at least 10 wt.%.
8. Process according to any one of claims 1-7, wherein the SO_3 content of the

oleum is between 18 and 35 wt.%.

9. Process according to any one of claims 1-4, wherein the process comprising
   a) feeding (i) oleum and (ii) cyclohexanone oxime into a first reaction mixture comprising caprolactam, sulfuric acid and SO_3,
   b) feeding (iii) a portion of the first reaction mixture and (iv) cyclohexanone oxime into a second reaction mixture comprising caprolactam, sulfuric acid and SO_3, wherein the molar ratio M of the second reaction mixture is between 1.0 and 1.4 and the SO_3 content of the second reaction mixture is higher than 6 wt.%,
   c) withdrawing a portion of the second reaction mixture from which caprolactam is recovered.

10. Process according to claim 9, wherein the SO_3 content of the second reaction mixture is higher than 8 wt.%.

11. Process according to claim 9, wherein the SO_3 content of the second reaction mixture is higher than 10 wt.%.

12. Process according to any one of claims 1-4, wherein the process comprising
   a) feeding (i) oleum and (ii) cyclohexanone oxime into a first reaction mixture comprising caprolactam, sulfuric acid and SO_3,
   b) feeding (iii) a portion of the first reaction mixture and (iv) cyclohexanone oxime into a second reaction mixture comprising caprolactam, sulfuric acid and SO_3,
   c) withdrawing a portion of the second reaction mixture;
   d) feeding (v) a portion of the second reaction mixture and (vi) cyclohexanone oxime into a third reaction mixture comprising caprolactam, sulfuric acid and SO_3, wherein the molar ratio M of the third reaction mixture is between 1.0 and 1.4 and the SO_3 content of the third reaction mixture is higher than 6 wt.%,
   e) withdrawing a portion of the third reaction mixture from which caprolactam is recovered.

13. Process according to claim 12, wherein the SO_3 content of the third reaction mixture is higher than 8 wt.%.

14. Process according to claim 12, wherein the SO_3 content of the third reaction mixture is higher than 10 wt.%.